The Vermont Farmer.

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A white garment appears worse with slight soiling than do colored garments much soiled. So a little fault in a good man attracts more attention than a great offense in a bad man.—*Chicago Advance.*

FAULTS OF GOOD MEN.

A garment that is purely white,
Though soiled a little, only slight,
Calls forth a greater share of frown
Than thrice the filth on one that's brown,
Therefore let all arrayed in white
Avoid foul contacts and keep bright.

Likewise a trivial fault, it seems,
In a good man, who never means
To wrong or injure friend or foe,
While he's a pilgrim here below,
Is looked upon as really worse
Than men who rave and swear and curse.

Let every good man, therefore, be
From minor faults forever free,
Lest he be counted far more vile
Than men who cultivate a style
Of conduct which is far from right,
And are disposed to oft "get tight."

The best of men are most abused;
For trifling faults are oft accused
Of grosser sins, and treated worse
Than men who steal their neighbor's purse.
For instance—think of Mr. Beecher,
The worst abused of any preacher;
Whose case may be our future teacher.

Middlebury, April, 1875. S. B. ROCKWELL.

For the VERMONT FARMER.

THE ROADS.

Two silent, dusty pilgrims,
Beyond the slumbering town,
Are clasped in close and long embrace,
Each hand to hand, and face to face,
Mingling their robes of brown.

The shadows of the maples
Have crept along the grass,
Cooling the scorched and withered blades
Within the roadside's hollow glades,
As slowly o'er they pass.

They fall upon the pilgrims
With mantle soft and deep;
The dusty roadways in the gloom,
Just flecked with sunset's golden bloom,
Are clasped in drowsy sleep.

A faded guide-board, leaning
Above the pilgrims low,
Catching the beams the branches toss,
Pictures the shadow of a cross,
Framed in the evening glow.

PAUL PASTNOR.

SOVEREIGNS! RALLY!

Sovereigns of Industry, rally to duty!
The harvest already is ripe;
The bright golden sun of the morning
Is scattering the shadows of night.
Gird on your armor, stand steady and firm
In the cause you have sworn to defend;
Your watchword be Unity, your motto Truth,
And coöperation the end.

The car of oppression's been rolling
The years you have stood with hushed breath,
Its great pond'rous wheels have been crushing
The poor "lab'ring classes" to death.
Monopolists have been its hard drivers,
The wild fiery steeds urging on,
Capital against labor their motto,
And "down with the poor" their song.

Sad is the lot of the toiler,
Earning bread by the sweat of his brow;
Long weary hours must he labor,
And small is the recompense now.
He sighs for a day of redemption,
And prays that the world may have light,
Forgetting that strength lies in numbers,
And in cooperation there's might.

Why grieve o'er the fast-fading darkness
When a day of great promise is dawning;
In economy's wealth, in unity's strength,
And might in the hands of the toiling.
With purpose united, stand true to the cause,
The car of progression moves on;
Each council's a link—a chain when united—
Make that chain both mighty and strong.

Pen Spatters.

A doughmestic difficulty—heavy bread.

To make a tall man short—try to borrow five dollars of him.

When a man can't find anything to do, he has lived long enough.

How immense appear to us the sins which we have not committed.

If you are out in a driving storm, don't attempt to hold the rains.

A man is successful when he makes life give him what he wants.

In what ship has the greatest number of people been wrecked? Courtship.

Nevada ice-dealers are already preparing to double their prices next summer, upon the ground that the crop will be almost entirely eaten up by the grasshoppers.

Every man who mails a package subject to the new postage rates drops it into the hole with a wish that Senator Hamlin had to sit for two hours on a hot shovel.

In reply to a young writer who wished to know "which magazine will give me the highest position quickest?" a cotemporary advises "a powder magazine, if you contribute a fiery article."

If George Washington himself had only been cross-examined by Judge Fullerton before he died, we have no doubt it would have turned out that he really lied about the cherry tree after all.]

A subscriber to a Southwestern newspaper died recently, leaving four years' subscription unpaid. The editor appeared at the grave and deposited in the coffin a palm leaf fan, a linen coat and a thermometer.

"Cut this out; it may save your life," is the heading of an advertisement in the *Vermont Citizen*. A New Hampshire man cut it out, pasted it in his hat, and the same day was killed by a brick which fell from the top of a building.

A man died at a revival meeting, and a Chicago reporter says "his lamp of life was burned out, the golden bowl was broken, the silver cord was loosed, and the spirit had flown to its giver." He meant to convey the impression that the man was dead.

The Smith family are of heathen origin, although they seem to have multiplied like the sand of the sea, as was prophesied of the Israelites, for in the 19th verse of the 13th chapter of 1st Samuel we read "There was no smith found throughout all the land of Israel."

For the VERMONT FARMER.

Parents' Relations to Schools. No. 7.

Having settled the system of school organization to be adopted, and having provided a suitable school-house favorably located and well furnished, the next important duty to be performed by parents is to select and employ a highly qualified teacher. Under the district system, this duty devolves upon the school trustees selected for that purpose. Under the town system, which I earnestly commend, it belongs to a committee of the town board of education. In either case, it is a question of vital importance who are to be entrusted with the management and instruction of our schools.

The education of the young prince or princess, in royal governments, is regarded as an important matter, affecting, as it must, the welfare of nations. The selection of a tutor for such an heir to the throne always excites a deep interest and solicitude throughout the kingdom or empire. But *we are a nation of sovereigns; and our children* princes of a future generation. Great care should, therefore, be exercised in the selection of teachers for every grade of schools. And what are some of the necessary qualifications of the good teacher? This is a practical question, and one which it seems proper to answer in this connection. In the past too little attention has been given to this subject. The writer well remembers the time when no examinations were required of candidates for teachers of our common schools; and the only question raised by the school officer as to the fitness of the applicant for the important office, were, first, Is he physically strong and courageous? Second, will he work cheap? Third, will he consent to "board round?"

These questions settled affirmatively, the candidate was sure to be employed. False opinions then very generally prevailed. It was believed that good school government could be maintained only by physical force; and that anybody who could read, write, and cipher, and "wield the birch," could keep school. And another serious error *was* and *is* entertained; viz. That a backward school does not need a well-qualified teacher, while the fact is, such a school demands all the more attention because it is backward. From such erroneous views has arisen much of the indifference manifested by parents as to the qualifications of their teachers. Still it is a vital question, and I wish to direct to it, especially, the attention of my readers.

Let me urge, therefore, that every trustee inquire, first of all, for physical vigor (not flogging power, but health) in the candidate for this important office. No employment taxes more severely the vital energies, or demands more vigorous health, than the successful management and instruction of a school. The teacher's is a confined life. He has but few leisure days or hours, and but short vacations that he can call his own. During six hours every day, for at least five days in a week, he is shut up between four walls, and often in a badly ventilated and uncomfortable room, and has but little opportunity for the necessary exercise and recreation.

His is also a laborious life. If faithful to his charge, his labors are incessant. He must govern and teach, and teach and govern, and sometimes under the most discouraging circumstances. Out of school his hours are devoted to a preparation for his work,—reading, studying, thinking, planning, for the improvement and welfare of his pupils. PARENS.

For the VERMONT FARMER.

Dairying.

It has become a grave question to-day whether the making of butter and cheese shall be done on the farm or be entirely removed to the cheese factory and creamery. The action of nearly all of our dairymen's associations tends to the one idea of centralization. It is not claimed that factory cheese or butter is superior in quality to that made by our best single dairies. But the argument is that it can be done cheaper, yielding greater profit, and above all that the farmer's wife must be relieved from the drudgery of butter and cheese making. We have before us a paper read at a meeting of the state board of agriculture at Springfield, by C. W. Mudgett, in which he talks long and loud of the heavy drudgery of butter and cheese making, and the consequent doom of the farmer's wife and daughters.

That the farmers' wives are an overworked class we fully concede; that by an eternal, incessant round of cares and hardships health too often fails and they finally sink, wan and weary, into a premature grave. But that it is chargeable wholly to dairying we deny, and maintain that the making of butter and cheese is the most healthy, as well as the most delightful employment of farm life. Remove the dairy house or dairy room from the farm and you take the brightest jewel from the casket. A drudgery for even a ruffle-shirt farmer to put on his white frock and assist his wife an hour or two every morning in making a delicious article of butter or cheese! A drudgery to go into the curing room and turn the golden cheese while his wife dresses them over! Call that drudgery in comparison with cooking, washing, ironing, sweeping, or even chamber-work! True it requires skill to excel in butter and cheese making, and it won't do to trust it to hired help that is ever changing.

Both the farmer and his wife should understand the art of dairying so as to take charge and give direction to the whole operation, yet very much of the heavy work can be done by hired help. The idea that the farmers' wives and daughters must do all the work connected with the dairy has long since exploded, and the introduction of the large pans in butter making and the vast improvement in cheese making has taken the rough edge all off from the business. Away, then, with the contemptible nonsense of over-taxed muscle, premature decay, being the patrimony of mothers and daughters that live in dairy regions. There is nothing in the whole routine of farm life half as pleasant and healthful as a well regulated dairy. But again, does it pay to take the milk to the factory. We never have seen in all reports any figuring better than many private dairies can show; indeed, we know of several farmers who have pledged their milk to the factory for a series of years that now wish themselves out of it. All experience shows that the most successful farmers are those that keep their business under their own control, and do their own work. It won't do to farm with the long lever. It is less expense to take care of the milk of ten or twenty cows on the farm with the right kind of arrangement than to carry it two or three miles to the factory. Then again, it won't do to carry off from the farm. To the Vermont farmer the manure question is of paramount importance. Too many farms have been impoverished. The sour milk from a dairy of twenty cows fed to hogs with the right kind of arrangement will produce 200 loads of good manure. The idea that milk or whey can be brought back from the factory in a condition to be fed successfully to hogs or calves is a mistake; they might possibly be kept alive upon it; but the whole secret in the rearing of calves or fattening of hogs lies in the manner of feeding. What farmer is prepared to say that henceforth and forever the making of butter and cheese shall be excluded from the farm—that our tables are to be supplied with an article that is colored with annatto? And the latest recommendation is that the milk be first set and skimmed, and then that fat or tallow be put into the cheese to supply the place of the cream. After thirty years' experience we have yet to learn that in the manufacture of butter and cheese any coloring during the summer months is necessary. In the spring, while the cows are fed on hay, butter may be improved by the use of carrots for coloring, but the best way is to feed the cows well and then the butter and cheese will be all right. E. W. B.

[The foregoing is better suited, we imagine, for the wealthy farmer than for those in moderate circumstances, who only occasionally have "hired help" around, and who work as hard as said help when they do have it. We believe the argument in favor of the factory system that it relieves the average farmer's wife of a heavy burden is a valid one. "E. W. B.," however, expresses views which we can heartily endorse in respect to the value and profit of keeping hogs for the manure. Which is the best, the individual or the coöperative plan, is an open question to dairymen, and we have no doubt those who make the best quality and supply the best market can do considerably better than to patronize a factory.]

For the VERMONT FARMER.

Feeding Oats in the Straw.

It will be remembered by the readers of the FARMER that I made a statement last February about my raising corn fodder which I fed to five cows, from the time that feed began to fail, in summer, (as they require it,) until the first of January.

I will make an addition to that, viz.: I have fed out my oats, (with the exception of thirty bushels which I trod off with my horses, by throwing a bed of oats on the barn floor, and then driving the horses over them ten or fifteen minutes, so as to obtain a few of the ripest for seed, and some to feed out, or to put with corn meal,) which grew on less than two acres of ground, and have kept the same cows until the middle of April, and if I had not thrashed any off I think they would have kept them until the first of May, thus wintering the five cows on what grew on three acres of land. I believe that it would have been much better, in a long run, to have fed my corn fodder and oats together, instead of separate, although I never had cows do better, in the amount of milk given and the amount of butter made, than mine did while feeding corn fodder, and my cows have done well since on the oats. But they should be well shaken apart, so as not to leave handfuls of them together, (or in a bundle,) for then they will be so greedy that they will not chew or masticate them thoroughly, and the grain will not be thoroughly digested.

Some object to keeping oats, for the reason that the mice will work and eat them. My opinion is that the mice must live, and have something to eat, and if you cut your hay early they eat the heads and blossoms and the tenderest part, but if cut late they will live on the heads and seed, and if I should keep a mow of oats until spring, I do not think the mice would consume half as many as one set of thrashers would in thrashing them. That is, four horses to *feed* and then to *pay* the thrashers, then furnish two or three extra hands and pay them, and lastly, though not least, to *board* the lot of men, would take more oats than the mice *could* eat.

I do not object to thrashing oats if one has more than he can feed, but would it not be better to raise stock and feed them out, and make manure?

Now, brother farmers, I wish for your opinion in regard to feeding oats. I cut my oats when one-half turned.

NATHAN WAY.

West Burke, April 20.

For the VERMONT FARMER.

Grafting.

Something has been published lately in the FARMER upon the subject of grafting. As the topic is an important one to the farmers of Vermont you will perhaps allow me space in which to continue the discussion.

Our friend from Weathersfield Bow, in an article which sounded very much like an advertisement, seemed to condemn all root grafted trees as humbugs; in this he is wrong, for there are doubtless very many trees that are valuable though root grafted; this of itself is not sufficient to condemn the tree. Your correspondent would do well to explain, before he makes such broad, sweeping assertions, why it is that a healthy scion grafted on a healthy seedling root must necessarily produce a "humbug tree,' while it would have been all right if it had been splice grafted ten or twelve inches higher. He counsels well when he advises farmers to "graft their scattering trees that come up around on their farms," while your Glover correspondent's remarks wherin he pronounces such trees to be "old scrubs" and the method recommended "to be uncertain, slow and unprofitable" will not apply to Southern Vermont.

We could show him many trees of that class which have been "grafted at some point above the surface of the ground," which are now in good condition and will rival any trees in this locality whether root grafted or otherwise.

There are in this locality many trees which have come up of themselves in the fields and pastures. They have been neglected perhaps and are rough and scraggy, but at the same time many of them are hardy and hearty. Whenever this is the case first class trees can be made from them, and good fruit obtained much sooner than can be grown from such as are set from the nursery. The owner of such trees should lose no time in causing them to be grafted. If the trees are of bearing size and the work well done three years will be sufficient to give a good crop of fruit.

The proper method with such trees is to graft the whole tree at one time, and any healthy grafted tree which is a shy bearer or which produces inferior fruit may be treated in the same way.

Some recommend grafting but a portion of the tree at once and consequently being two or three years in going through the whole, but this is a waste of time. If the work is well done, care being taken to graft small limbs not more than one inch in diameter, the work can safely be all done the same year. No pruning more than is necessary to do the grafting should be done at this time. The sprouts which start around the scion should be kept rubbed off during the summer, but no other pruning should be done until fall when about one half the remaining natural branches should be taken out, the remainder being allowed to grow another year, when the whole may be removed, leaving the scions in sole possession.

Many procure their grafting done and neglect the absolutely necessary after-pruning until the natural growth has completely choked and starved out the growing scions, rendering the work of grafting of no avail, and then condemn both the grafter and the system, pronouncing one a cheat and the other a humbug.

Professional grafters are often accused of setting more scions than are needed. There is sometimes good reason for this charge; an unprincipled, ambitious workman will crowd more scions into a conveniently shaped tree than are necessary, will work some stocks which do not need grafting and omit others not so handily situated which should be worked in order to give the proper shape.

But the owner of ungrafted trees often goes to the other extreme and will not allow as many scions set as the good of the trees require. If too much grafting is done the pruning saw affords an easy remedy, while if the tree is but partially worked, very severe pruning will be required to divest it of the remaining natural branches, so severe as sometimes to greatly injure the tree.

The subject of fruit culture is of much importance and should command more care and attention from our farmers.

TOMLINSON.

[The above is from one of our most valued correspondents, and we hope to hear from him often.]

For the VERMONT FARMER.

Poultry.

I have kept from ten to thirty hens, and mostly the old-fashioned, blue-legged hen, but last March I bought 69 of different breeds. I have the Golden Pheasants, Bolton Grays, Black and White Gill Spanish, Creepers, Leghorns, Polands, and now I have another kind that have wings on their feet, and I want to get up a big name for them so that I can get rid of them. I guess I will call them the Mountain Rangers. I don't like the Rangers; one will not eat quite as much as a sheep, and they will not lay as large an egg as the blue-legged hen, and they are the worst hen to break from setting that I ever saw, and now if any reader of the FARMER has any of the old blue-legged hen that they will swap even, let them call on D. L. MORSE.

East Charleston, Vt.

Notes and Queries.

Would some skilled fruit hybridizer give me some information, through the FARMER, at what time to perform the fertilizing operation on the blossom? Is it before the blossom is fully unfolded, or after? And what part of the blossom must be removed—the central stem or the next surrounding ones? The latter, I suppose, is the male.

QUERIST.

What, and what quantities, is required to make a good wax for grafting?

J. E. CHASE.

Jay, Vt.

Barry recommends equal parts of rosin, beeswax and tallow; but suggests, as better, two parts rosin, one and one-fourth beeswax, and three-fourths tallow. Thomas recommends three parts rosin, three beeswax, and two of tallow, and as a cheaper one, but more liable to stick to the hands, four parts rosin, two of tallow and one of beeswax. Rosin melts at 276 degrees, and tallow and beeswax at 140 degrees, or a little more. The more tallow the more easily the mixture melts, and *vice versa*.

A correspondent recently asked about thorn hedges. Samuel Edwards, Sr., writes the *Prairie Farmer* that the buckthorn is "the best hedge plant known to me for a hardy, efficient one in too high latitude for Osage Orange. Plants had better be two years old when set in hedge at eight inches apart; after planted two years, cut them off in spring, to the ground; then each year cut back to one foot from point of last year's cutting, until of desired height, at which it is annually headed back. At seven years from planting, it will turn any animal."

E. P. Powell, in the *Horticulturist* for March, says: The buckthorn is the plant of all others, where neatness and ornament are the main objects combined with ordinary protection, unless we prefer evergreens. The buckthorn needs less care, and is more easily put into shape than any other deciduous plant. It is rich in color and grows with great rapidity.

The *Country Gentleman* says: Buckthorn plants are very easily raised from fresh seeds, or from seeds which have not been injured by being too much dried. They are to be planted in drills about an inch deep, and they will come up as freely as apple seeds. In one or two years they will be large enough to set in the hedge rows. The roots are numerously fibrous, and they may be easily transplanted without failure if the soil is in a fine mellow condition, and the work properly done, as with other plants. The buckthorn forms a natural hedge row with less cutting or training than most other hedge plants, but having no real thorns, and not growing to a very stiff tree, the hedge does not become a really formidable barrier, although making a fine compact screen. To make it strong for a hedge, the soil should be rich, and a strip of land several feet wide kept well cultivated and entirely free from grass and weeds. Dry knolls would not probably be rich enough to give it a strong growth, and wet land would be undesirable. Of late years, the buckthorn has been mostly superseded at the North by the honey locust, and in favorable localities and on well drained land, by the Osage Orange. The honey locust is perfectly hardy, and some plants are very thorny, and when faithfully cut back to keep it thick and hedgy, it makes a good barrier. The Osage Orange does better on dry, poor land, and if the subsoil is thoroughly drained, it will endure our winters generally.

Principles of Horticulture.

XII. PERSPIRATION.

299. It is not, however, exclusively by the action of light and air that the nature of sap is altered. Evaporation is constantly going on during the growth of a plant, and sometimes so copious that an individual will perspire its own weight of water in the course of twenty-four hours.

300. The loss thus occasioned by the leaves is supplied by crude fluid, absorbed by the roots, and conveyed up the stem with great rapidity.

301. The consequence of such copious perspiration is the separation and solidification of the carbonized matter that is produced for the peculiar secretions of a species.

302. For the maintenance of a plant in health, it is indispensable that the supply of fluid by the roots should be continual and uninterrupted.

303. If anything causes perperation to take place faster than it can be counteracted by the absorption of fluid from the earth, plants will be dried up and perish.

304. Such causes are, destruction of spongioles, an insufficient quantity of fluid in the soil, an exposure of the spongioles to occasional dryness, and a dry atmosphere.

305. The most ready means of counteracting the evil consequences of an imperfect action of the roots is by preventing or diminishing evaporation.

306. This is to be effected by rendering the atmosphere extremely humid.

307. Thus, in curvilinear iron hothouses, in which the atmosphere becomes so dry, in consequence of the heat, that plants perish, it is necessary that the air should be rendered extremely humid, by throwing water upon the pavement, or by introducing steam.

308. And in transplantation in dry weather, evergreens, or plants in leaf, often die, because the spongioles are destroyed, or so far injured in the operation as to be unable to act, while the leaves never cease to perspire.

309. The greater certainty of transplanting plants that have been growing in pots is, from this latter circumstance, intelligible.

310. While the utility of putting cuttings or newly transplanted seedlings into a shady, damp atmosphere is explained by the necessity of hindering evaporation.

"Popular Science."

Any reader of our Eastern agricultural papers sees frequent allusions made to *phosphates* and *superphosphates*. The former word merely means decomposed bones or the carbonate of lime. *Superphosphate* is a scientific preparation of this material for fertilizing, and is two parts bone, one part sulphuric acid, and three parts water.—*Ex.*

Now-a-days chemistry is taught in all our academies and many of our public schools; yet it is perhaps asking to much too require that editors of agricultural papers should know any thing about a science more closely interwoven with successful agriculture than any other. Certainly we would not advise an agricultural editor who, at a county fair, had to enquire which were the Shorthorns and which the Jerseys, to make chemistry his *first* study.

The first sentence in the above extract is probably correct. It is something to have the exordium of a scientific lecture in accord with facts. But the two succeeding sentences contain six very stupid errors, and not a single approximation to the truth. Phosphate does not mean decomposed bones; it does not mean carbonate of lime. Superphosphate is not a scientific preparation of carbonate of lime; it is not two parts or any part bone; it contains no sulphuric acid and no water.

Perhaps it may be as well not to stop here, but to say briefly just what phosphates and superphosphates of lime are. They are both of them compounds of an acid called phosphoric acid, with lime. Phosphoric acid is itself a compound of phosphorus with the oxygen of common air. Phosphoric acid is produced when phosphorus is burned; in a pure form it appears as a white powder, which, dissolved in water, has a very sour taste. Phosphoric acid combines with other bases besides lime, and these compounds are all called phosphates; a fact evidently unknown to the writer of the above extract. With lime it makes three distinct compounds or phosphates, as follows:

1.—Three parts lime, one part phosphoric acid.
2.—Two parts lime, one part phosphoric acid.
3.—One part lime, one part phosphoric acid.

The first of those phosphates or three-lime phosphate, is the phosphate which is found in bones and in the phosphatic minerals used for making fertilizers; such as the South Carolina phosphate and the phosphatic rock called apatite. It is insoluble in water, and consequently useless as a fertilizer until it is in some way changed so that water can dissolve it, since plants always take their food in a fluid form.

The second compound of phosphoric acid and lime, or two-lime phosphate, is a somewhat rare substance, and is also nearly insoluble in water.

In order to make the phosphate of lime in bones and mineral phosphates useful as a fertilizer, it must be made soluable in water; and this is done by changing it into the third compound, or one-lime phosphate, called also superphosphate, and soluble phosphate. To effect this it is necessary to deprive the three-lime phosphate of two parts of its lime, which is done by the use of sulphuric acid. When sulphuric acid is added to ground bones or pulverized mineral phosphate of lime,—three-lime phosphate,—it takes away from it two-parts of the lime which it contains, and unites with that lime to form plaster, or gypsum. When the mixture is complete, the proper proportions having been used, the mass consists of one-lime or soluble phosphate, sulphate of lime, and the other substances which were contained in the bones or the mineral. About one-half the material of bone consists of three-lime phosphate, the rest being mostly animal matter containing nitrogen, which is also valuable as a fertilizer.

The superphosphate which results from the above described process consists simply of one part of phosphoric acid and one part of lime. It does not contain any bone, for that has been decomposed. It does not contain any sulphuric acid, for that is combined with the lime to make plaster. Neither does it contain any water. It is just simply lime and phosphoric acid, united together, in equal parts, by weight.

But the whole mass which is what is sold as a fertilizer under the commercial name of superphosphate of lime, contains the true or pure superphosphate mixed with the plaster, and with the animal matter and other ingredients of the bones that were used to make it. It is an unusually good commercial superphosphate that contains over twenty-five per cent, by weight, of pure superphosphate of lime. The rest (supposing no adulterating or other fertilizing substances have been mixed with it) consists of plaster, etc., as mentioned above. No properly made commercial superphosphate contains a particle of carbonate of lime, which is simply common limestone or air-slaked lime.—*Watchman.*

An Impromptu Farmers' Talk About Potatoes.

The Major was there, and so was the Deacon, and the Cap'n and A., B., and C. The train was late, and consequently the mail, and while we were waiting, what more appropriate to chat about than those subjects intimately connected with our calling? Surely nothing; and the ideas brought out at this impromptu farmers' meeting in a casual conversation will serve to illustrate the benefits resulting from frequent social meetings among farmers. No one present at this accidental club thought of dignifying it as such, if we except one whose record, herewith appended, attests to his train of thought.

"There's one thing, Major, you's right in last spring, when you told me I seeded my potatoes too heavy. My experience this year,—and by the way, I have observed more closely than has been my custom before—confirms it in my mind, that the old-fashioned way of using fifteen to twenty bushels of seed to the acre, is all wrong. I found on the part of my field planted after I had the talk with you—I knew my way was right, but thought I would deviate a little, just for the notion of it, and see if there was anything in what you'd told me,—that where I used less than half the amount of seed, the yield was increased with fairer, and a larger proportion of good sized potatoes, than on the part where more seed was used.

"I am glad friend C.," quoth the Major, "that my preaching has had the effect to awaken one wrong doer. My idea on two points in raising potatoes, from long practice, are pretty well confirmed as correct. One is the saving of seed, and the other the amount to use. I know it is the practice of nearly all farmers, to let their potatoes lie in the ground till the middle of October; long after the vines have become dead. Now, my observation leads me to believe that potatoes for seed should be dug early, even while the vines are green. As a rule, when the largest tubers begin to crack open in boiling, generally towards the latter part of August, those intended for planting another year may be dug. My theory is this: Our corn and various grains that we use for seed, we let stand till perfectly ripe and mature. This is well; but with tuberous rooted plants, a different course applies. A potato separated from the vines while green and growing vigorously, will retain its vigor and perpetuate itself year after year without deteriorating."

"But," interrupted the Deacon, "if we dig our potatoes at the time you have indicated, we shall have a lot of small, watery, immature things, fit neither for the table or feeding."

"Well, this brings me to idea No. 2. I wouldn't use so much seed as to require a very large lot to be dug. My theory is that the first setting is the best, and will reproduce the variety with less tendency to rot or of running out,—but then the difference in the yield, ordinarily, is much less than you suppose. Use one-third, or perhaps one-fourth the seed—say five or six bushels to the acre—and not a very large amount would need to be dug, as you would say, prematurely. Let them be placed in a cool, dark place as soon as dug, and in the spring cut to single eyes, putting two in the hill."

"That's sound doctrine," says the Cap'n, "although I've been loth to believe it; but if that isn't correct, how in creation do the folks that buy these fancy kinds, at awful fancy prices—two or three dollars a pound—get such amazing crops? Why, here's my neighbor over here, got three pounds of a new variety of potatoes, and raised ten bushels from it. That's two hundred pounds from one. I saw one bushel of them that weighed sixty pounds, and only fifty-four potatoes."

"Now I'd like to know," says B., "what you folks here think about using small potatoes for seed? Some people seem to think, and I see the Major does, that only fair sized potatoes should be planted. Now I'm going to take you on your one-eye theory. If you are going to cut them up so fine, isn't one eye as good as another? What is an eye any way? It's nothing more nor less than a bud, a 'tater' vine in *statu quo*, (in embryo, I presume he meant) and if it will sprout and send up a shoot, what more is wanted of it?"

"Several things are to be considered in this connection," answers the Major; "I presume friend B. will admit that in budding or engrafting fruit trees, all buds or scions are not of equal value. The eye of the tuber and the bud of the fruit tree are alike, and yet unlike. They each contain, the one the vine, the other the twig in embryo—as friend B. meant to say—but if the bud or scion is taken from unripe or unnatural wood, it fails entirely or maintains a feeble sickly growth. Now the immature tuber corresponds to a certain extent to the unripe wood; both lack vitality and consequently both fail to exhibit that exuberance of growth which a healthy maturity always imparts."

"But," says the Deacon, "how will it work to cut potatoes so fine, if there happens to be a protracted drought in the fore part of the season? We seem to be especially liable to such seasons. It would seem to me in such cases larger seed would withstand the dry weather better and thus prove to be an advantage."

"Undoubtedly it would," resumes the Major, "and this is another point I think worthy of consideration. In cutting seed potatoes fine, if the rains are abundant it is all right, but in case of drouth occurring soon after planting, some of the seed would be likely to fail from lack of moisture and pabulum that would be provided from larger seed."

"Now what's your opinion, Major, in regard to planting early varieties late, say the Early Rose—to defer planting till late in June."

"As a rule, I believe the practice a bad one, for it has been tried with results far from satisfactory. An experiment tried the past season with the variety you name, turned out poorly. It seems to be pretty well proven that the best crops of potatoes of any variety are grown when the seed is deposited early, or as soon as the ground is in good condition for planting."

"I wish some one would explain," says B., "why it is our varieties of potatoes now-a-days, run out so much sooner than the varieties cultivated twenty years ago. Now there was the old-fashioned white, the long red, and other varieties that produced good crops for, I don't know how many years; and nobody thought of abandoning their cultivation, on account of their deteriorating."

"One reason," says the Deacon, "is a great deal more is being done in the way of originating new varieties and this in such numbers that many good varieties go out of cultivation to make place for newer ones, the fame of which in these days of newspapers and cheap printing, are heralded throughout the land. These flourish for a brief period, when a newer claimant for popular favor comes into note, and so the succession goes on. Some varieties possessing an excess of good qualities like the Early Rose and Orono, hold in public favor; while the fame of a dozen others waxes and wanes, but these at last are given the back seat for new and comparatively untried sorts. So, instead of potatoes *running out* more than formerly, they are *pushed* out of cultivation to give way to new varieties that are constantly being brought to notice—a concomitant of these times of progress."

"Don't you think," asks the Cap'n, "that many, if not all varieties, might be made to yield remunerative crops much longer than they do, by a judicious system of seed selection and cultivation?

"I think that is emphatically true," answers the Major. "There are two grand reasons why potatoes degenerate. One is our hap-hazard manner of selecting seed. There are, according to my notion, but a few potatoes in a hill fit for seed, especially if they remain in the ground until the vines are dead. A potato that is overgrown, scraggly and hollow-hearted, is not fit for seed. Neither would I plant those of any size from a hill where there were an undue amount of small ones high up on the vines. Such should be particularly avoided. Some small potatoes may be matured, but as a rule they are of a later set, and are not sufficiently developed for seed. Neither do I plant the whole of the eye end of all varieties. The part is either discarded or cut so as to divide up the eyes, so as to give but two or three shoots to the hill. Here comes the mail so we'll adjourn."—*Maine Farmer.*

Rotted Manure.

When the learned doctors assembled at Concord, N. H., at the meeting of the state board of agriculture, were discussing some of those profound question relating to breeding, which puzzle so many of us, Mr. Adams, the secretary of the board, proposed that the speakers should "bush the road," so that if they got in too deep water, they would be able to follow their track back to hard land again.

With so many conflicting opinions and such varying experiences in the application of manure to our soils, we are reminded of Mr. Adams' advice to "bush the road," when discussing this subject, that we may be sure of having a track back to firm land. Some cultivators seldom use stable manure until it is pretty thoroughly decomposed, while others cart it out fresh and apply it immediately to the soil. We never should object to liberal quantities of it in either form on our own fields, but depends somewhat upon the kind of crops cultivated whether manure should be fine and old or coarse and fresh.

One thing is certain, manure does not furnish food for plants until it is partially decomposed. Raw, fresh manure is not really plant food, but in warm weather, decomposition goes on very rapidly. Horse manure, left in a stable twenty-four hours in warm summer weather, will frequently throw off ammonia in very perceptible quantities, just before a rain, the effect may be noticed almost immediately.

Well rotted manure is manure which has been worked over in a pile exposed to the atmosphere and having moisture enough in it to prevent wasting until fermentation ceases. Well rotted manure may be used in the hill or drill for starting seeds, while, if it were unfermented, the seeds would be likely to be spoiled by the heat which would be given off during the process of decomposition. Manure will rot faster in a pile, if rightly managed, than if plowed under the soil, but unless the handling is perfect, it would be more liable to waste than if applied to the soil.

Drawing manure in winter is a good practice, as it can be drawn much cheaper than during the hurrying months of spring. We should recommend the practice of spreading directly from the cart, evenly over the surface, in winter, instead of piling it in heaps which must be moved again.

The pitch of the land should, however, be considered before deciding to spread in winter. If very steep and near the lower part of our farm, we should hesitate before spreading on the surface in winter, but, if tolerably level, we should expect to save more in labor than we should lose by the wasting of the manure.—*New England Farmer.*

Liquid Grafting Wax.

Mr. L'Homme-Lefort invented, not many years ago, a grafting composition which is very cheap, very easily prepared, and keeps, corked up in a bottle with a tolerably wide mouth, at least six months unaltered. It is laid on in as thin a coat as possible, by means of a flat piece of wood. It is not affected by severe cold; it never softens or cracks when exposed to atmospheric action. When applied to wounds in trees, it acts as an artificial cuticle. After a few days' exposure to the atmosphere in a thin coat, it assumes a whitish color, and becomes as hard as stone, being impervious to water and air. As long as the inventor kept the preparation secret, it was sold at very high prices.

It is made after the following formula: Melt one pound of common rosin over a gentle fire; add to it an ounce of beef tallow and stir it well. Take it from the fire, let it cool down a little, and then mix with it a tablespoonful of spirits of turpentine, and after that about seven ounces of very strong alcohol (95 per cent), to be had at any druggist's store. The alcohol cools it down so rapidly that it will be necessary to put it again on the fire, stirring it constantly. Still the utmost care must be exercised to prevent the alcohol from getting inflamed. To avoid it, the best way is to remove the vessel from the fire, when the lump that may have been formed commences melting again. This must be continued till the whole is a homogeneous mass similar to honey.—*New York Tribune.*

Horses Versus Mules.

Much has been said in agricultural papers about the advantage of mules. I have raised some of the best I ever saw, and have had some means of comparing them with the horse. It is very true that the mule will climb a steep hill, if it is free from mud, with a bigger load according to his weight than a horse. It is true that he will rough it through a hard winter better than a horse, and it may be also that he is less liable to disease than a horse, but he is slow and lacks spirit. In deep mud he is almost worthless.

He seems to have but little power to draw his feet out of sticky soil, and the exertion tires him and he loses heart. In a slough where the spirit of the horse prompts him to a gallant struggle to regain the solid ground, the mule gives up and lies contentedly down in the mud. Of course some mules are worse than others in this respect, but none are equal in mud to the most average horse.

For very hard, heavy work, where there is no mud, the mule will always be valuable, but as long as it remains true that time is money we must prefer the horse to the mule.

The rage for mules commenced in the United States about seventy-five years ago and has been revived at different periods since; but the horse still continues to bear sway, and falsify the oft repeated predictions made many years ago that the mule would eventually supersede the horse in the general work of the farm. For heavy hauling and rough usage on the hard streets of cities I have no doubt but that the mule is the most economical. For this sort of work there is a demand for him and he may be raised for the market with profit; but it is simple folly for any one now, after seventy-five years of experience with mules in the United States, to talk about their taking the place of horses.—*Cor. Iowa Fine-Stock Gazette.*

An Experiment in Soiling.

How to get the utmost product from a man, animal, or given area, is one of the ever-recurring, interesting, fascinating, complex problems of husbandry. It has never been and may never be fully settled, because capacity is such a variable quantity, depending on so many inside and outside circumstances, but any man who lifts the veil, even but a little, from this hidden shore, deserves the public gratitude and the nation's praise. As an approximation to that higher realm, that hidden sea, where, it is said, neighbors are scarce and there is plenty of room, we propose to tell how one man practices, in order that ten grade Jersey cows may get most of their living from six tillable acres. Of course it cannot be done by the old methods, but has been done by the process of soiling, or stall feeding in summer. Let acre No. 1 be near the barn and be used as a pasture, or place of sunning and exercise in cases of emergency. Let acre No. 2 be sown with winter rye, the autumn previous, and cut for the green feeding as soon as the first heads appear. After about two weeks, the balance should be mown and hayed, and the land plowed and planted with a bushel of sweet evergreen corn. Let acre No. 3 be sown with spring rye, and, when this is fed or hayed, follow the crop with fall and winter cabbages. Let acre No. 4 be sown with oats, and followed by winter turnips. Let acre No. 5 be planted with two bushels of northern corn, half of it early, and the other half two or three weeks later, and at the last hoeing scatter between the rows turnip seed for a later crop. Let acre No. 6 be sown with clover, to be used as occasion requires, and be followed by southern or western corn, using two bushels of seed per acre. To recapitulate we have here one acre each of winter rye, spring rye, oats, clover and cabbage, two acres of turnips, and three acres of corn, or ten crops, in one season, on five acres, and have an acre of pasture ground besides. Of course liberal manuring should precede every crop, but the process is an accumulative one, and the longer one crops in this way, the more manure he will have to bestow. As the Scripture saith, "To him that hath, shall be given, and he shall have more abundance." Turnips and cabbages should be fed in connection with the dried rye, and oats and clover, and dry food should be given with the green rye. If, by the sale of cabbages or turnips, wheat bran could be had, so that each animal could have three or four quarts daily, it would be a pleasant variety, and tell favorably in the thrift of the cattle. Where good pasture lands, at convenient distances, can be bought for $50—or less—per acre, it may not be wise to practice soiling, but where higher values and limited areas prevail, as in the vicinity of large towns and cities, this may be the best course. The number of these who raise two crops on the same piece of ground in a year must necessarily increase, but as it requires some thought and experience, and as the limit is not yet reached, this little experiment is modestly ventilated.—*Springfield Republican.*

Keeping Milk Sound During Thunder Storms.

Experiments in Sweden have shown that the well known effect of thunder storms in souring milk may, in a great degree, be avoided or counteracted by artificial heat in the dairy. The plan is to start a fire in the room where milk is kept, whenever a thunder storm is seen approaching. This is done even in hot weather, the purpose being to drive out the excess of moisture. The explanation given is that during the approach of such storms the atmosphere becomes loaded with moisture and the damp, moist, heavy air resting upon the milk produces acidity and spoils it. Dry air, then, is important in the dairy, and whenever there are atmospheric changes which bring excessive moisture in the air of the dairy, a fire should be at once started to counteract the bad influence it would have upon the milk.

If this explanation be correct, and if artificial heat has the effect of preventing milk from being affected by thunder storms, the knowledge is important to butter dairymen. In the best dairy-rooms the heating is produced by steam pipes, which give a more uniform temperature to all parts of the room than can be done by the heat from a stove.—*Boston Cultivator.*